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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 20071126

Application Number: 09/646,119
Filing Date: October 30, 2000
Appellant(s): HALMSCHLAGER ET AL.

MAILED
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Neil F. Greenblum
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on August 27, 2007, appealing from the Office action mailed on January 25, 2007.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Claimed Subject Matter*

The summary of claimed subject matter contained in the brief is correct.

(6) *Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) *Claims Appendix*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) *Evidence Relied Upon*

4,830,709	TURNER et al.	5-1989
4,614,566	KOPONEN et al.	09-1986
5,238,534	MANNING et al.	8-1993

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3,378,435	LOYND	4-1968
5,607,551	FARRINGTON et al	3-1997
GB 2 283 766	WENT et al.	5-1995

Smook, Gary A. "Handbook for Pulp & paper Technologist," second edition, pp 239-247.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

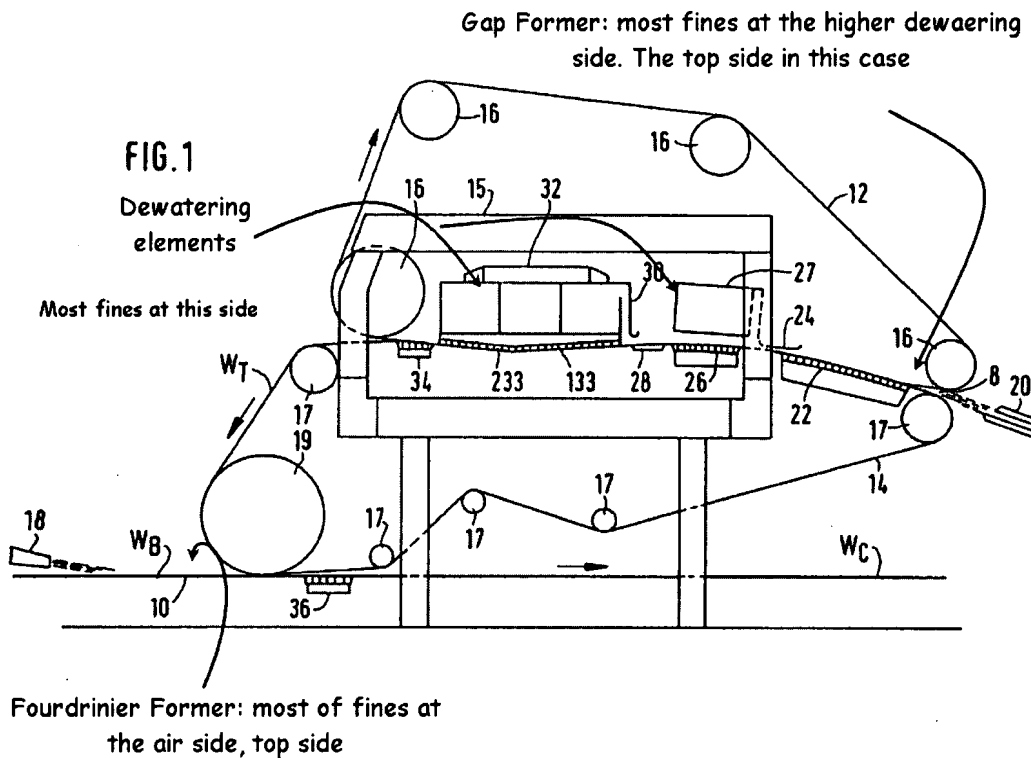
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 46, 47 and 74 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Turner et al., US Patent No. 4,830,709

Regarding Claims 46-47 and 74, Turner et al teach a device for making a multi-ply paper in which the different plies are made in separated headboxes, couched, and joined see figures. Turner et al. teach the making of cardboard and teach the advantage of joining the plies using the surface having fines on the surface, see column 2, lines 12-18. Also Turner et al. teach the use of a Multilayer headbox along with other types of headboxes in the multi-ply board, see figure 3 and column 6, lines 39-52 and teach in the same paragraph the formation of thin layer, i.e., a paper layer, and other layer being a board, paperboard, (for claims 46 and 76). Regarding claim 74, Turner et al shows in the figures the use of pressure elements in the outside of the

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felts/fabrics, see elements 22, 22a etc. Since the device of Tuner et al. shows all the elements of the claimed device and since the dewatering start at the bottom and then at the top, then most of the fines would be top¹, see figure below, and it is well known that Fourdrinier formers have greater concentration of fines at the air side, see for example page 1, lines 11-16 of the present application, then Turner et al. are joining the plies with higher fines content and therefore, the limitations of the claims are met, or at least the minor modification(s) to obtain the claimed invention would have been obvious to one of ordinary skill in the art. Moreover, Turner et al. clearly teach that better bonding is obtained if the



¹ This is well known and taught by applicants on page 1, lines 16 of the original specification, "In so-called gap formers the dewatering occurs first at the top and then at the bottom, which results in higher content of fines at the bottom," same applies to Turner et al. the dewatering first occurs at the bottom and then at the top, which concentrate the fines at the top.

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plies with higher fines content are joined; see column 1, lines 37-46 and therefore, the joining of the plies with higher content of fines would have been obvious to one of ordinary skill in the art.

Note also that the twin wire taught by Turner et al. are gap formers, The later is evidenced by Smook in the "Handbook for Pulp & Paper Technologist," second edition, which teaches that a gap former is a twin wire machine having blade in the surfaces of the wires, (Blade Former), or roll(s) for the dewatering of the web, (Roll Former) and Turner et al shows a twin wire with blades at the surface of the wires, then Turner twin wire is a Gap Former. Since Turner et al. show in the figures a Fourdrinier ply coughed together with a twin wire/gap formed ply, the system shown by the reference seems to have all the structural limitations as claimed.

Claim Rejections - 35 U.S.C. 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 48-97 are rejected under 35 U.S.C. §103(a) as being unpatentable over Turner et al., further evidenced by US patent Nos., 3,378,435, 5,607,551, 5,238,534 and GB 2 283 766.

Regarding claims 75-80 and 89-97, Turner et al. clearly teach that better bonding is obtained if the plies with higher fines content are joined, see column 1, lines 37-46 and therefore, the joining of the plies with higher content of fines would have been obvious to one of ordinary skill in the art for the same benefit.

Turner et al are silent with respect to the specific of the circulating of a dewatering belt over a former element, claims 48²; including a headbox, claim 49; forming element being a roll, claims 50; two gap formers; claims 51; web traveling in different direction, claims 52. Regarding Claims 48-50 these claims define what is well known in the art, as a "Crescent Former," defined in US patent No., 3,3378,435 a more recently used in US Patent Nos. 5,607,551, 5,238,534, GB 2 283 766, DE 19704443 A1, etc. Note that the crescent former is a gap former, twin wire, see Smook, previously cited, having a forming element, a roll, in which a moving felt and a fabric wrap the roll, the felt run next to the roll and the fabric runs on the outside forcing the stock to

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drain through the fabric. Crescent formers are functionally equivalent to twin wires/gap formers and its use would have been obvious to one of ordinary skill in the art since he/she would have reasonable expectation of success if a crescent former is used instead of a functional equivalent twin wire. Note also that it has been held that “[W]here two equivalents are interchangeable for their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary.” *In re Fout* 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 372 F.2d 566, 152 USPQ 618 (CCPA 1967).

Regarding Claims 51, 52, and 71, Turner et al teach the use of two gap formers and show in all the figures the formed web traveling in opposite directions before entering the couching zone. Claims 62-70, Turner et al. teach the use of several headboxes, including Fourdrinier formers and the different ways in which the layers having more fines can be joined. Turner et al teach the combination of gap formers and Fourdrinier, see figures and also teach that more than two plies can be made. Therefore, using more than one Fourdrinier or combinations of Fourdrinier and gap formers and the different manners in which the formers can and/or need to be placed in order to join the surfaces with more fines is within the levels of ordinary skill in the art in view of Turner et al teaching. Note that Turner et al teach the moving wire moving horizontally in the couching zone of claims 65 and 69, see figures. As to claim 72, Turner et al. teach only the use of single layer headbox; however the use of a multilayered headbox, which is a non-critical aspect of the invention, is within the levels of ordinary skill in the art since its use, i.e. the use of a multilayered headboxes, is conventional in the art, see cited references.

² Even though only the apparatus claims are shown/cited, the same reasoning applies for the equivalent method claims.

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As to claims 53-61 and 81-88, Turner et al. do not show the use of several gap formers, but the use of Fourdrinier and a Gap Former, see figures. However, using a combination of Gap formers with or without Fourdrinier is within the levels of ordinary skill in the art. In other words, replacing the Fourdrinier of Turner et al. with a gap/Twin wire former would have been obvious to one of ordinary skill in the art since it has been held that “[W]here two equivalents are interchangeable for their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary.” In re Fout 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); In re Siebentritt, 372 F.2d 566, 152 USPQ 618 (CCPA 1967).

(10) Response to Argument

Applicant's arguments filed on August 27, 2007 have been fully considered but they are not persuasive for the following reasons:

The only basis in the specification on how the fines are concentrated in one of the surfaces of the web is the statement on page 1 of the specification, Background of the prior art, which states:

“Different types of formers are known. For instance, in a fourdrinier [sic] former, the dewatering occurs at the wire side. A concentration of fines (otherwise referred to as fine particles or fine substances) at the upper side is achieved with power pulses. In a hybrid former, the main dewatering occurs at the wire side. In the zone of the upper wire, the dewatering occurs at the top which results in a reduction of the content of fines at the top. In a so-called roll blade gap former the dewatering occurs first at the top and then at the bottom, which results in a higher content of fines at the bottom.”

This clearly teaches three things:

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- i. How the fines are concentrated in one surface with respect to the other.
- ii. That this is also known fact, i.e., prior art, and
- iii. That the joining of the plies with higher fines content is a matter of configuring the devices, so to couch those surfaces. The figures of the current application clearly show such configurations, e.g. figure 1, shows a Fourdrinier, Layer A, which as stated above have the higher concentrations of fines on top, couched with a ply of a twin wire former, gap formed, layer B, which has the higher fines on the bottom, as also indicated above, i.e., for this configuration the dewatering by the roll 20 occurs at the bottom and then at the top, and therefore, the fines are at the top and that is the surface which is couched at the roll 28.

Turner et al. clearly teach the same or at the least very similar configuration, see figure above, and therefore the device of the cited reference read in the device as claimed or at the very least configuring the devices, formers, of Turner et al. in such a way would have been obvious to one of ordinary skill in the art. This is even more clearly evidenced by the fact that Turner et al., teach that better bonding is obtained if the plies with higher fines content are joined, see column 1, lines 37-46 and therefore, the joining of the plies with higher content of fines would have been obvious to one of ordinary skill in the art. That is one of ordinary skill in the art would have reasonable expectation of success of obtaining better bonding by joining the sides with higher concentration of fines.

Even though applicants argue that it was not shown that Turner et al Fourdrinier former do not contain the pressure pulses, Turner et al teach the use of hydrofoils, see figure 3,

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numeral 13, which are the responsible for pressure pulses and fines distribution on the air side of a Fourdrinier web. The latter is a well known fact in papermaking; see for example, **Smook** in Handbook for Pulp and Paper Technologists, previously cited, in pages 239-245. Smook also teaches that pressure pulses and vacuum are conventionally used in a Fourdrinier former, pages 239-245. Also **Koponen et al.**, US Patent No. 4,614,566 further evidences that in Fourdrinier machines the air side, i.e. the top side, contains higher concentration of fines than the bottom side, see specifically, column 3, lines 26-36.

Furthermore, Turner et al. show in the figures a Fourdrinier ply coughed together with a twin wire formed ply. As it can be seen in the figures, Turner et al. show gap formers. Note that as defined by the "Handbook for Pulp & Paper Technologist," by Gary A. Smook second edition, a gap former is a twin wire machine having blade in the surfaces of the wires, (Blade Former), or roll(s) for the dewatering of the web, (Roll Former). As Turner shows the use of twin wires, having blades on the surface of the wires, and combination of twin wire(s) of such wires and Fourdrinier machines, this limitation is met.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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/Jose A. Fortuna
Primary Patent Examiner
AU: 1791

Conferees:

Steven Griffin



/Romulo Delmendo/

Romulo H. Delmendo, Appeal Conferee